

C. P. Dunn

Progressive Republican Candidate for

Supervisor of Greenlee County

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ALFALFA ON DRY FARM

Row Cultivation Will Have Great Place.

Stooling Habit Is of Extreme Importance to Dry Farmer—Grower Can Thin Out Drills as Beets Are Thinned.

It is doubtful if the system of sowing alfalfa in rows would be a success in the middle states. I doubt it, as I do not believe sufficiently thorough cultivation could be maintained in a humid climate to keep out the grasses. That row cultivation will have a great place in dry farming is beyond question, for hay as well as for seed production. Where ordinary seeding is practiced there are usually too many plants and they often exhaust the entire available moisture, resulting in a general death instead of the survival of the fittest, writes L. Ogilvy in the Breeder's Gazette. The yields of hay on dry and irrigated lands, so far as experiments have been tried, have been greater when drilled in rows than where the plants occupied the whole field. With the Spanish or straight-growing kind the hay is coarse, but with Grimm and varieties having somewhat the same stooling habit this drawback does not exist.

This stooling habit is of extreme importance to the dry farmer, as will be easily seen if we consider what usually happens to alfalfa. There is as a rule a fair amount of precipitation in the spring or an amount of stored water in the soil in June. All the little plants start at once and flourish for awhile, and then as the little tap roots reach down through the cultivated land and engage in a desperate struggle to pierce the plow sole and harder uncultivated substances, the heat, grasshoppers and other adverse conditions check plant growth on top. On the other hand, alfalfa planted in rows 24 inches apart has three times the moisture to draw on even if the drills are continuous. If the grower desires he can thin the drills as beets are thinned and thus make practically certain of a sufficient supply of moisture except in a very abnormal season. He can with harrow, weeder or cultivator cheaply retain a soil mulch to prevent evaporation—in other words, he can do all for alfalfa that he can for any other cultivated crop. This will amount to a great deal more than it does with a big plant like corn, producing a heavy tonnage and calling for lots of moisture for transpiration.

If the alfalfa plants are thinned to 24 inches they can almost be made to grow, and that is what the dry farmer has to do—make plants succeed where conditions are at any rate not normal even if not entirely adverse. Adverse they are if he persists in farming as if they were normal, and he must come to see this if he is to succeed.

Given alfalfa with a stooling habit, the plant can first be established and its roots reach deep permanent moisture before it produces a crop of any magnitude. Once firmly established, it will no doubt, like all other plants that have enough room, begin to stool out and do business to the limit of its capacity. In dry seasons for a time at least the stools will not be so well established, but they will first succumb, leaving the main part of the plant still in possession.

The same methods will apply equally to the Spanish or non-stooling varieties and will be a great success for seed, but the hay will be coarser. They can never fill the ground with a multiplicity of shoots as the others, but must coarsen their branches and stems at the expense of the leaf-bearing properties of the plant. This disadvantage can be largely overcome by early cutting. As it will be a long time before there is a sufficient supply of seed of other kinds on the market, row cultivation of the kinds available should be begun and pushed at once in the dry region.

Horse Knowledge.

An old horseman remarked recently: "If a man wants to learn about horses he must learn from horses." A man to be successful must be with horses and be a close observer of their moods, manners and makeup. A colt should be trained from the first moment he is helped to his feet. If taught to yield early to man's restraint and guidance he will never need "breaking." To follow his master's wishes will be second nature. Never speed a colt too young, and when he is given speed permit it for short spurts only as he can bear it.

Buckwheat as Honey Plant.

A Pennsylvania reader is desirous of knowing about buckwheat as a honey plant. Buckwheat honey is of a deep, dark purplish tint and looks very much like New Orleans sorghum molasses. It is usually of heavy body; the flavor to one who is a lover of clover and basswood, and who has never been brought up on buckwheat honey, is more or less rank. The capplings of the honey are almost pearly white.

Food for Sheep.

Ensilage is not considered good for sheep, and if it is fed at all it should be fed very sparingly and at intervals of two or three days.

Turnips, carrots and sugar beets make fine feed for sheep, and no matter how small the flock is every farmer should raise some roots for the winter feeding.

DEPTH FOR PLOWING

Methods of Tillage May Be Looked Into With Profit.

Some of Western Experiment Stations Reached Conclusion That Excessively Deep Plowing Not Always Profitable.

In these dry years farmers in the humid belt may with profit look into the methods of soil tillage of the dry farmers. There was a time when the dry farmer talked about shallow plowing and surface cultivation, claiming that stirring the soil deeply left it loose and open and resulted in a loss of moisture. This was before sub-surface packers and other dry farming machinery came into use. When the big traction engines came into use and plows, discs, and other tillage machinery could be hauled by means of mechanical power, experimenting in deep plowing, subsoiling, subsequent discing and sub-surface packing became common and before long deep plowing became the rule. It is not uncommon for dry farmers to plow to a depth of 15 inches, and eight to ten inches is now the usual depth, says the Farmer and Breeder. They are plowing to that depth with horses, usually using from five to six on a gang plow.

Naturally some of the western experiment stations have been studying soil tillage questions under arid conditions and they have come to the conclusion that excessively deep plowing is not profitable, but that a depth of eight to ten inches, as a rule, gives the most remunerative results. For a period of five years, on four different fields, the Utah experiment station has obtained the following average results with wheat:

Depth of Plowing.	Yield per acre—Bus.
8 inches.....	13.7
10 inches.....	14.0
15 inches.....	13.4
20 inches, including plowing and subsoiling.....	12.4

On one of the fields included in the four fields referred to in the above table, plowing to a depth of 10 inches gave the highest yield—23.4 bushels per acre. On the other three fields plowing over 10 inches in depth gave the highest yields, yet the difference was not sufficiently large to offset the extra cost of the deeper plowing and subsoiling. On two other fields, during 1907 and 1908, the following average yields were obtained from different depths of plowing:

Soil Preparation.	Yield per acre—Bus.
Discd, but not plowed.....	39.9
Plowed 5 inches deep.....	19.1
Plowed 12 inches deep.....	27.7
Plowed and subsoiled 16 inches deep.....	27.4

In 1909 this work was again repeated on another farm with the following results:

Soil Treatment.	Yield per acre—Bus.
Plowed 5 inches deep.....	10
Plowed 10 inches deep.....	13
Plowed and subsoiled 15 inches deep.....	12
Plowed and subsoiled 18 inches deep.....	14

Summarizing these results, Prof. L. A. Merrill, in a recent bulletin, reporting seven years' investigations in dry farming methods, says: "The writer's opinion is that on deep, heavy clay soils, plowing to a depth of ten inches will insure as good and possibly better results than plowing to a greater depth, but that on lighter soils an occasional plowing to a depth of fifteen to eighteen inches is advisable."

While the results above mentioned are not applicable to all sections, and we would not, of course, recommend plowing the land to a depth of ten inches regardless of local conditions, we believe they are of value in calling the attention of our readers to the fact that the average farmer is not plowing his land deep enough. Those who are plowing their stubble lands this fall in anticipation of droughty conditions next year should plow their land from one to two inches deeper than they have been doing in the past.

Those who have been plowing six or seven inches deep will undoubtedly improve the producing power of their land by plowing seven or eight inches this fall, while those who have been in the habit of plowing only four or five inches in depth may well plow two inches deeper. This, of course, is only a general statement, and each person must determine for himself what he may reasonably expect from deeper plowing. However, as a general proposition there is no question but that we have reached the stage when we must work our land deeper and give it more surface cultivation.

If deeper plowing conserves more moisture in the arid belt, there is no reason why it should not also do the same in the humid belt. No one knows, of course, whether next year will be a dry one or not, but even if we should have a normal rainfall our soils will still be short of moisture. We never have what is ordinarily called a wet year following a dry year. Let us prepare for a shortage of moisture next year; it will be money in our pockets to do so.

Field Free From Weeds.

The corn field that has been kept free from weeds this summer will suffer less from the drought and be most easily handled when it comes to cutting for the silo.

Fall Plowing Best.

Fall plowing will make a much more compact seed bed than will spring plowing and crops grown thereon will be less subject to injury from drought.

CORN ON DRY FARMS

Land for This Crop Should Be Plowed Very Deeply.

Fall Plowing Will Accumulate More Moisture Than Disking and Harrowing—Listing Is Considered Dangerous.

Many of our states have awakened to the fact that their yields of corn average far below what they consider fair crops, and to encourage deeper plowing and better work generally have been offering prizes for heavier production.

In Georgia, the prize for the best acre of corn was won by a boy of eleven, Joseph Stone of Chester, on eight-year-old land. He plowed ten inches deep, then cross-plowed 14 inches deep, then subsoiled where the rows were to be planted, 22 inches deep; used about ten dollars' worth of fertilizer to the acre; cultivated so as to leave three cultivator furrows, then again leaving only two furrows, after that with other implements, and raised 102½ bushels per acre.

I quote the above to show the necessity of deep plowing for corn. All the other records for corn this last year were made by deep plowing methods, writes E. R. Parson in the Dry Farming Bulletin. The land for this crop should be plowed as deeply as possible, but not packed, for the reason that packing favors top growth, and if we have a wet spring, followed by dry weather, the corn is liable to overgrow itself and produce a crop of baggy ears—all husk and no corn.

On the other hand, loose ground favors root growth. The top does not grow too rank, and as soon as the dry weather comes, the corn, having plenty of root and not weakened by a top of heavy foliage, goes to making ears, and we get a much better crop than if the plant is allowed to overgrow at the start.

Fall plowing will accumulate, as a rule, more moisture than disking and harrowing, but to secure good results, the land must be plowed again in the spring, before planting.

Where the precipitation does not fall below 14 inches, corn can be raised every year by plowing ten inches or more and planting one grain in a hill from 24 to 36 inches apart, according to the corn; but the land should be kept rough cultivated or plowed during the winter months, or as soon as the cattle are taken off.

Many farmers list in their corn in hard land without any plowing at all, and consider it hard luck when their crops fail in dry years. In many of these regions, 60-bushel crops have been raised by good plowing. Listing is dangerous for another reason; we sometimes get an extra heavy storm which will fill the lister furrows and completely bury the corn.

The wheels of the corn planter will usually pack the land sufficiently for seed germination in the row. The cultivation should be deep and rough, and always across the slope when there is any. We are fully aware that level cultivation prevents evaporation, but in the "cloud-burst" states it also favors run off, and experience shows that we gain more than we lose by saving the run-off at the expense of some evaporation.

The ground should be cultivated as late in the season as possible in order to put it in a receptive condition for the heavy summer rains which often make the crop. It is a mistake to continually cultivate corn during a drought; it creates too fine a mulch, makes mud, and stops penetration when finally the rain comes. All that is necessary is to break the crust and maintain a good three-inch mulch.

In times of severe drought, a crust may form under the mulch; but if the mulch is intact, there is no more evaporation than before, and the deep plowing and the moisture in the subsoil will bring the crop through.

Slop and Swill.

There is a wide difference between slop and swill. Slop is properly a hog's relish, while swill is too frequently nothing more than water polluted with unhealthy refuse. The term swill may embrace a wide variety of feed or drink, ranging from ordinary dish water to a mixture of milk, table scraps, soapuds and other kitchen refuse, while slop is a combination of a ground feed or feeds with water or milk. A supply of wholesome swill in connection with other feeds may be extremely valuable, but in a condition of decay, rancid, and mainly filthy, it may result in a loss of high-priced animals. Slop, however, may be considered as always in order.

Market Products Daily.

Most producers have come to realize that dairy products must be marketed daily, and under the most favorable circumstances, to command the highest market price. The same practice should obtain in the marketing of eggs.

Neglected Manure.

It is well known that barnyard manure, if neglected, rapidly loses the greater part of its fertilizing value and becomes practically worthless, except to improve the mechanical and physical properties of the soil.

Lime for Hogs.

No mistake will be made if a little lime is used in the drinking water and so much the better if the hogs can have access to soft coal slack mixed with salt, lime and a little sulphur.

THOROUGH HOEING OF SOILS

Cultivation Throughout Season Increases Materially Yield of Grain and Water Required.

Another masterly and convincing argument for a thorough cultivation of the soil has been published by Prof. J. A. Widdsoe of the Utah experiment station.

In a long series of experiments, intelligently made, Professor Widdsoe found that thorough hoeing or cultivation throughout the season increased materially the yield of grain, and increased the amount of water required per pound of dry matter produced, and that in infertile soils the water requirements of crops could be materially lowered by the addition of manure or commercial fertilizers.

He believes that in every case the result is to be attributed largely to the plant food set free by the hoeing or fallowing, or that added in the fertilizers. There are many farmers who are not in a position to irrigate their land at once, but there are few who cannot cultivate their soil a little better than they have been doing. No doubt there are localities where irrigation is not feasible, and then again there are thousands of tenant farmers or men of limited means who cannot take advantage of the principle of irrigation. It is fortunate that nearly all such farmers are at least able to till and fertilize their land.

The practical conclusion is, that in districts where the rainfall is the chief consideration, it is not sufficient to store an abundance of water in the soil, but the soils themselves must be kept in such a condition that plants growing on them can produce dry matter with the smallest possible amount of water. Under a system of dry farm rotation in which a hood crop is perhaps grown every year, in alternation with wheat, a fairly large amount of available plant food will be maintained, but at the same time the amount of stored moisture will be so near the danger limit as to jeopardize seriously the maturing crop. On the other hand, where the soil after being fall plowed and left in the rough throughout the winter is allowed to lie fallow the following summer a much larger amount of plant food is set free and at the same time a larger amount of water is stored in the soil.

GENERAL FARM NOTES.

Save seed corn early.
The hog is the most plastic of all farm animals.

Grass is a prime factor in successful hog raising.

Fall plowing is injurious to cutworms and grasshoppers.

If possible, disk stubblefields, to conserve moisture and destroy weeds.

Next to pure air, water is the cheapest thing we can supply our poultry.

The silo's first cost is large, but if well made it may be used for years.

The milker's hands should be washed before milking each and every cow.

Fall plowing exposes the soil to the elements which aid in liberating plant food.

Don't forget the hen's dust bath. They must have it to be healthy and happy.

No part of the dairy work is more important than the cleaning of milk utensils.

Do not think that because the hens have free range no grit need be supplied them.

Visit the henhouse often, so the hens will feel acquainted and not be afraid of you.

Select early a plenty of seed corn, so that further and more rigid selection may be made next spring.

The very best of food without a plentiful supply of pure, fresh water will fail to induce the hens to lay.

A large flock of poultry will, in the course of time, clean up all the available grit from a large area around their quarters.

If you have fifteen or more head of cattle, and haven't a silo, it will pay you to look into the subject of silos pretty carefully.

Every one who has ever had experience with poultry knows that cleanliness is absolutely imperative if the flock is to prove profitable.

The milker should be clean. Before milking and before putting on his milking suit he must wash his hands with warm water, soap and a nail brush.

Milk pails should be of smooth metal like heavy tin; galvanized iron or any rough metal should not be used, as germs collect much more easily and they are more difficult to clean.

Hay in Germany.

The United States consul at Cologne, reports that no timothy is raised in Germany, and not much of any distinctive grass for hay, "the fields seemingly producing a mixture of varieties much resembling the natural growths on an Illinois prairie." This grass, when cut, yields exceedingly well, the lower growth being very heavy owing to the fact that generally the meadows are irregular. Harvesting is done mostly by hand. Two crops are always taken from the meadows annually, and sometimes three.

Proper Cooling of Milk.

In spite of all that has been published in the farm papers and urged by the dairy schools, there are yet comparatively few farmers who pay any attention to the proper cooling of milk.

Green Cabbage Worm.

The green cabbage worm is very destructive and will frequently destroy the best heads in the fields unless preventive measures are promptly taken.